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ANNUAL REPORT
BOISE BASIN EXPERIMENTAL FOREST
IDAHO CITY, IDAHO
1967

by
Gary G. Baertsch



INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
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INTRODUCTION

Making scheduled measurements of research study plots, collecting information needed for planning future disposition of designated areas, and preparing the Bannock Creek logging sale dominated the 1967 field season at the Boise Basin Experimental Forest. These activities will be discussed in detail under Research Activities and Administrative Activities.

RESEARCH ACTIVITIES

TIMBER MANAGEMENT RESEARCH

Management of old-growth pine.--The first remeasurement of diameter and height growth of regression data trees and sample poles were taken on Compartments 3, 6, 8, 9, 11, 15, 24, and 28 of the Ponderosa Pine Production Study (PPPS) in July of 1967. This study (424)^{1/} was established in 1953.

Growth and yield.--Thinning plots 3-1, 3-2, 20-1, 20-2, and 20-3 on the PPPS thinnings (461) were remeasured for the second time in October 1967. These plots were established in 1957, and are to be remeasured at 5-year intervals.

Cottonwood thinning plots (382) located on Cottonwood Ranger District were remeasured in October 1967. This was the 40-year measurement for these plots established in 1928.

^{1/} Study numbers in parentheses.

SAPD.--A stem area point density (SAPD) thinning plot (553) was established for the purpose of correlating growth of individual trees with the SAPD competition index. Results will be compared with plots established in California and Montana.

Regeneration.--Measurements have not been taken of the Town Creek plantation (448) located near Centerville, Idaho, since 1958. This plantation was established over a 5-year period, 1954-1958.

A survey (548) of natural regeneration of Rocky Mountain Douglas-fir conducted during the fall months of 1967 included areas on the B.B.E.F. One area, a small clearcut in compartment 28 was mapped. Douglas-fir seedlings were counted and the age and distance from seed source of each was recorded. Soil samples were also taken.

TSI.--There was no timber stand improvement done on the Experimental Forest in 1967. However, we did determine acreages of timber stands that will be thinned in 1968 and 1969.

FOREST INFLUENCES

Fire weather.--Fire weather records were maintained by the Idaho City Ranger District and regular daily and 10-day reports were sent to the Fire Dispatcher at the Supervisor's Office in Boise, Idaho. Fire danger during the season of 1967 was very high to extreme from August 5 thru September 10. Only a trace of rain fell in August and only 0.04" fell during the first 10 days of September.

Precipitation and temperature.--Daily precipitation and temperature records are maintained by a Weather Bureau station at Idaho City.

Averages for 1967 were:

Table 1. Idaho City precipitation and temperature, 1967
Figures in parentheses are 37-year (1931-1967)
averages

Month	Monthly precipitation (Inches)	Mean monthly temperature (Degrees F.)
January	6.62 (3.57)	29.0 (23.3)
February	2.21 (3.07)	32.1 (28.0)
March	1.18 (2.51)	35.7 (33.9)
April	2.08 (1.79)	39.0 (43.7)
May	0.87 (1.75)	51.0 (52.0)
June	1.83 (1.43)	58.0 (58.5)
July	0.05 (0.30)	69.1 (66.7)
August	T (0.34)	70.1 (64.9)
September	1.00 (0.66)	62.2 (57.0)
October	1.82 (1.63)	45.6 (47.6)
November	1.85 (2.77)	36.7 (34.8)
December	<u>1.73 (3.57)</u>	<u>23.5 (26.9)</u>
Annual	21.24 (23.39)	46.0 (44.8)

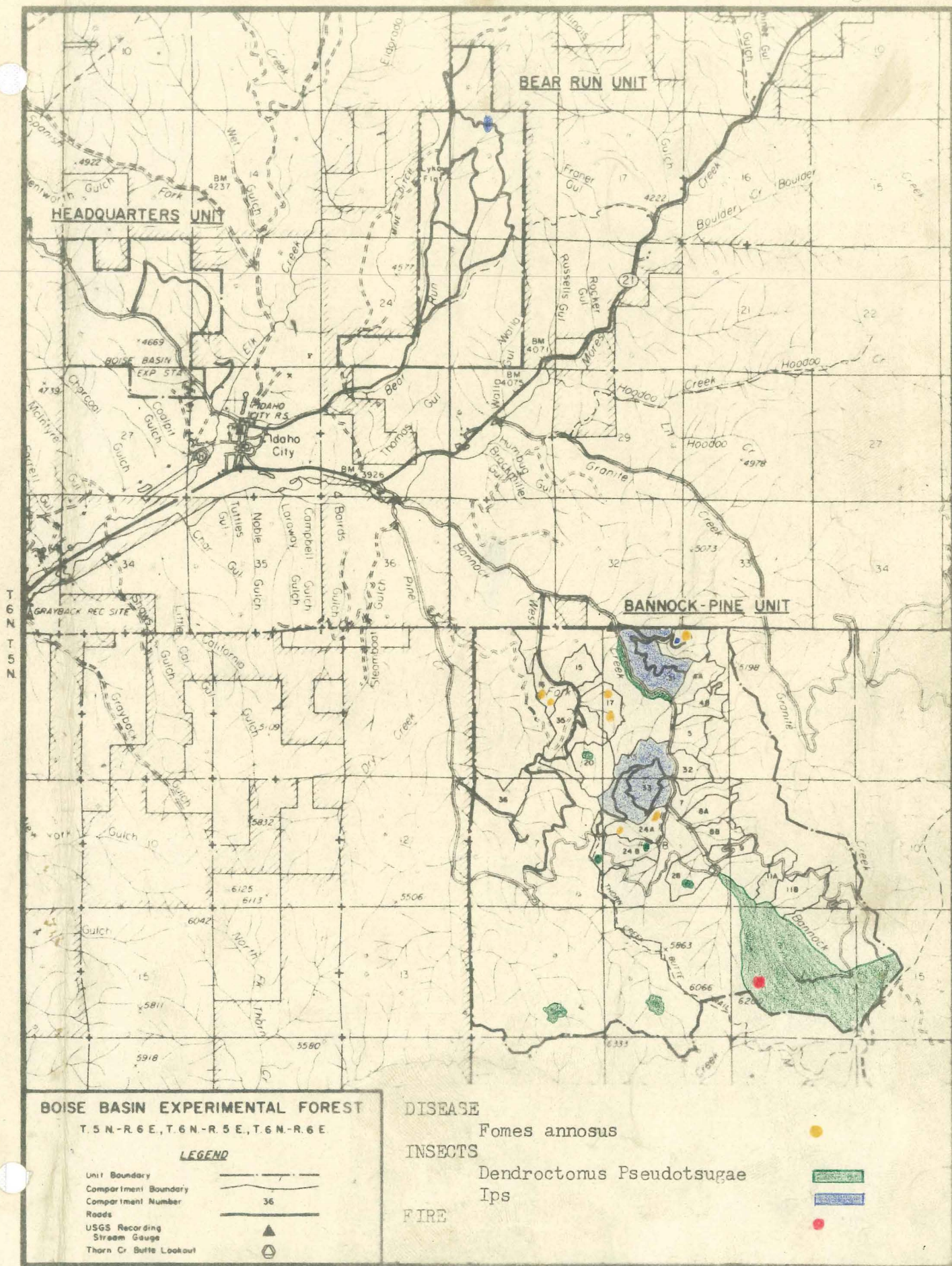
Stream Flow.--U.S. Geological Survey maintains a stream gauge on Bannock Creek which drains 5.75 square miles, all within the Experimental Forest. Average discharge over 18 years (1939-41, 1950-66) is 2.13 cubic feet/second; or 1,540 acre-feet per year. The 1967 data is not available at this time.

Fire.--The Experimental Forest had one small fire on June 20, 1967. It was located in the NW $\frac{1}{4}$, SW $\frac{1}{4}$, Section 16, T5N, R6E. The size of the fire was approximately 0.08 acre (see Fig. 1).

Dwarfmistletoe.--Dwarfmistletoe (Arceuthobium) is wide spread in the Douglas-fir stands throughout the Bannock-Pine unit of the Experimental Forest.

Disease - Insects.--There has been some evidence of Fomes annosus found in the Bannock-Pine unit of the Experimental Forest.

Douglas-fir bark beetle (Dendroctonus pseudotsugae Hopkins) and Ips have been the most prevalent among the insects, but a few scattered trees have been killed by the western pine beetle (Dendroctonus brevicornis) and the Black Hills beetle (Dendroctonus ponderosae). Many trees have been killed by the Douglas-fir bark beetle in the upper part of Bannock Creek. Scattered groups of trees throughout the Bannock - Pine Unit have also been killed. Since the 1965 All-Out Conversion Cutting, Ips have infested young stands of ponderosa pine in compartments 31 and 33. The western pine bark beetle, Black Hills bark beetle and Ips have been found in the Bear Run Unit (see Fig. 1).



ADMINISTRATIVE ACTIVITIES

FIRE PROTECTION

The B.B.E.F. fire plan was revised last in 1962. This fire plan can be considered a supplement to the Boise National Forest and the Idaho City District Fire Plans. It outlines the Experimental Forest's responsibilities, and provides an action plan for the headquarters area. Research personnel carried out these responsibilities in 1967.

NATURAL AREA

The proposed Bannock Creek Research Natural Area boundary was traversed and marked with metal stakes and yellow paint in 1967.

TIMBER SALES

Bannock Creek Salvage Sale located on the upper Bannock Creek drainage was awarded to Producers Lumber Co. of Boise, Idaho on November 8, 1967. Control of the Douglas-fir bark beetle (Dendroctonus pseudotsugae) is the main objective.

Preparation of this sale was a joint effort of Boise National Forest and Intermountain Station personnel. Volume estimates were obtained from a photo cruise by Karl Moessner, Ogden. Idaho City District personnel and Gary Baertsch did the sample cruising. The estimate was 2.9 MM board feet on 377 acres.

FOREST ROADS

Steve Smith, District forester, and Gary Baertsch located and flagged 3.1 miles of road on the Bannock Creek Salvage Sale. These roads will be built prior to logging in 1968.

COMPARTMENT NUMBERING

Some compartments had been designated by a combination of number and letter. These were changed. They are now represented by number only, as shown in the following tabulation:

<u>From</u>	<u>To</u>
4A	3
4B	4
8A	6
8B	8
11A	10
11B	11
15-16	15
24A	23
24B	24

IMPROVEMENTS AND MAINTENANCE

1. In May, a water sample was tested for intestinal bacteria. They found none.
2. The water supply at the station headquarters was very low in August and had to be used sparingly.
3. The septic tank for the south dwelling was uncovered and the inlet pipe unplugged. The remainder of the sewer system operated satisfactorily throughout the year.
4. The two fire hydrants and hoses located at the Station headquarters were checked. One valve was found leaking and had to be replaced.
5. Walls around the bathtubs were tiled in both the south and north dwellings.
6. A new planimetric map of the Experimental Forest was prepared by Boise National Forest Maps Branch and Gary Baertsch.

7. A new sign was installed on road 10303 where it enters the Bannock-Pine Unit. New compartment boundary signs were installed along road frontages.

TMR WORKSHOP

Boise Basin Experimental Forest was host to the Timber Management Research Workshop on May 23-25, 1967. The following men, who are engaged in timber management research in the Intermountain Station, attended the session:

Charles A. Wellner, Assistant Director - Ogden
Gary G. Baertsch - Boise
Raymond J. Boyd - Moscow
Glenn H. Deitschman - Moscow
Marvin W. Foiles - Moscow
Dale O. Hall - Boise
James E. Lotan - Bozeman
Robert D. Pfister - Missoula
Arthur L. Roe - Ogden
Russell A. Ryker - Boise
Wyman C. Schmidt - Missoula
Raymond C. Shearer - Missoula
Albert R. Stage - Moscow

Director Joseph F. Pechanec attended part of the meeting.

RESIDENCE

Gary Baertsch occupied the south dwelling from May 1 thru September 10, 1967.

Dale Potter occupied the north dwelling from June 4 thru September 10, 1967. Steve Smith, forester from Idaho City Ranger District, occupied it from November 1, 1967 thru January 1968.

The bunkhouse was occupied by Roland Shaw and Bill Nolan where they batched from May 15 thru August 28, 1967.

The lodge was occupied off and on during the field season by Station and Forest Survey personnel.

PERSONNEL

Employees:

<u>Name</u>	<u>Position</u>	<u>Dates</u>
Gary Baertsch	Forestry Research Tech.	5/ 6/66 - present
Dale Potter	Forestry Research Tech.	5/ 1/63 - present
Roland Shaw	Forestry Aid	5/15/67 - 12/31/67
Bill Nolan	Forestry Aid	5/15/67 - 8/28/67

Dale Potter, Forestry Research Technician, is on educational leave at the University of Idaho. He returned to work for the three summer months only.

Roland Shaw and Bill Nolan, students at Boise College, did an excellent job in assisting with research activities and other assigned duties.

OFFICIAL VISITORS

<u>Visitors</u>	<u>Date</u>	<u>Purpose</u>
Richard A. Strong Robert S. Mathison Ken Rogers (Nezperce National Forest)	June	Field observation on activities in silvicultural research of ponderosa pine
Boise National Forest Fire School	June	Demonstration of fire retardant and fire suppression
Forest Survey (Ogden, Utah)	June	Used the B.B.E.F. facilities for training of personnel and while working in the Idaho City area.
SIFA - Boy Scouts planting trip	June	Observed silviculture practices of ponderosa pine. Planted 2 acres with ponderosa pine trees in compartment 36.
Jerry Knopf R-4 Zone Entomologist (Boise, Idaho)	June	Insect survey of B.B.E.F.

<u>Visitors</u>	<u>Date</u>	<u>Purpose</u>
INT Research Support Services, Personnel Section	July	Toured B.B.E.F.
Idaho State Landboard trip with SIFA Don Samuelson, State Gov. Pete Cenerussa Joe Williams Del Engleking	July	Explained the purpose of the B.B.E.F. and its application to Idaho Forests
Dr. Burt Barnes and assistant U. of Michigan	August	Collected samples from aspen clones on the B.B.E.F.
Abdul Teraq Pakistan, AID	August	Field observation on activities in silviculture research of ponderosa pine.
Boise Project Leaders Dale Hall Walter Megahan Dean Medin	August	Reviewed past and present studies on the B.B.E.F.
Prospective timber buyers Producers Lumber Co. Boise Cascade Corp.	Sept.	Inspection of Bannock Creek Salvage Sale and discussed research program
INT-R-4 Natural Area Committee	Oct.	Inspected Bannock Creek proposed natural area
Southeastern Idaho Chapter SAF	Dec.	Toured B.B.E.F. and held a discussion on "Small Tree Utilization."

PRESS AND TV

In September the Statesman Newspaper carried an article with photographs of the damage by the Douglas-fir beetle in upper Bannock Creek. KBOI TV News also gave coverage.